

HIV/AIDS and the future of the poor, illiterate and marginalized populations

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HIV/AIDS: a devastating modern pandemic



GLOBAL STATUS

2004

Adults and children estimated to be living with HIV/AIDS as of end 2004



Total: 39.4(35.9-44.3) million

**SOURCE:
UNAIDS 2004**

Estimated number of adults and children newly infected with HIV during 2004



Total: 4.9(4.3-6.4) million

SOURCE:
UNAIDS 2004

Estimated adult and child deaths from HIV/AIDS during 2004



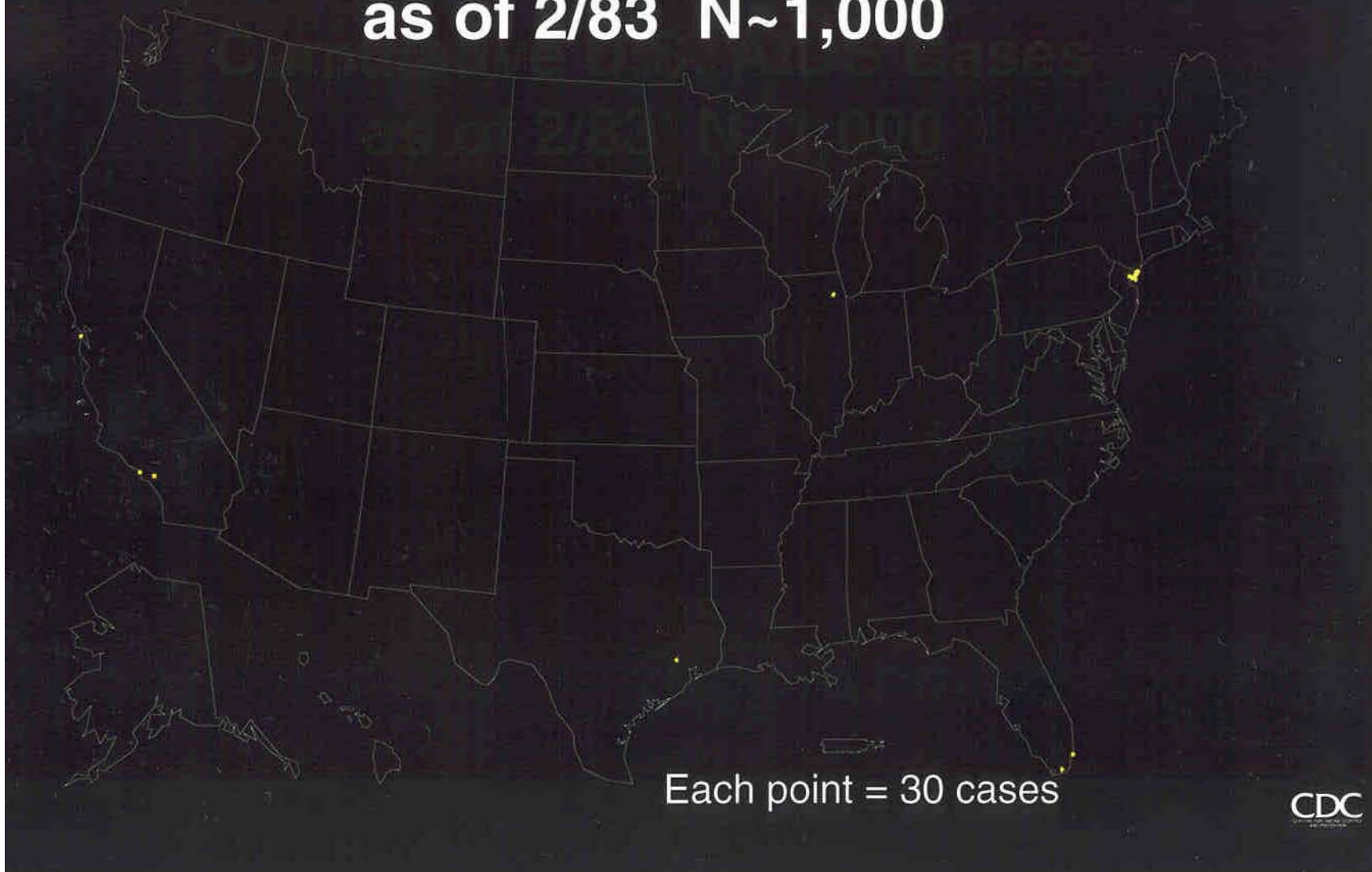
Total: 3.1(2.8-3.5) million

SOURCE:
UNAIDS 2004

HIV SPREADS FAST

(Best surveillance: USA)

Cumulative U.S. AIDS Cases as of 2/83 N~1,000



Cumulative U.S. AIDS Cases as of 5/85 N~10,000

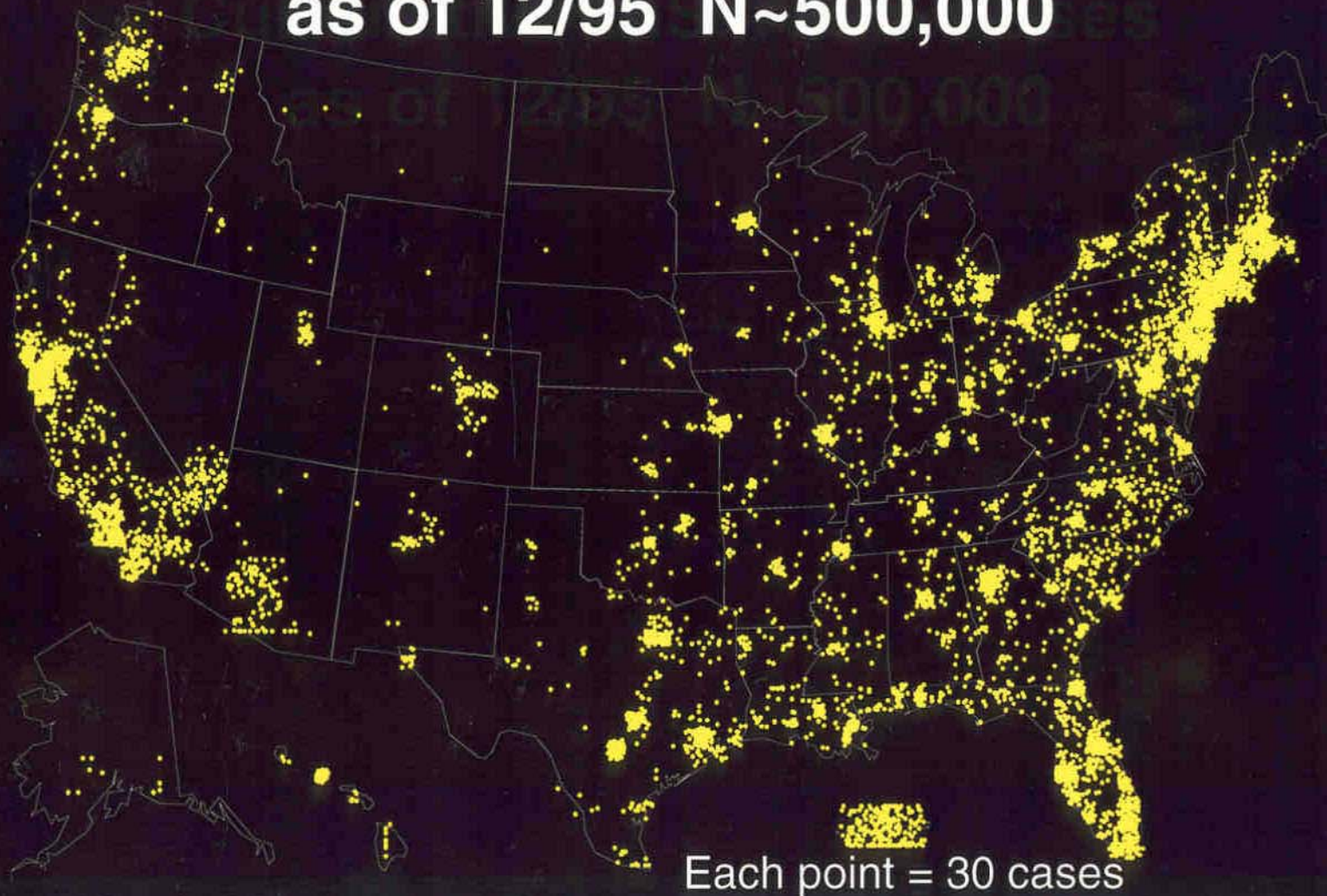


CDC
U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE

Cumulative U.S. AIDS Cases as of 7/89 N~100,000



Cumulative U.S. AIDS Cases as of 12/95 N~500,000



CDC

Cumulative U.S. AIDS Cases as of 9/97 N~626,334



Each point = 30 cases

CDC

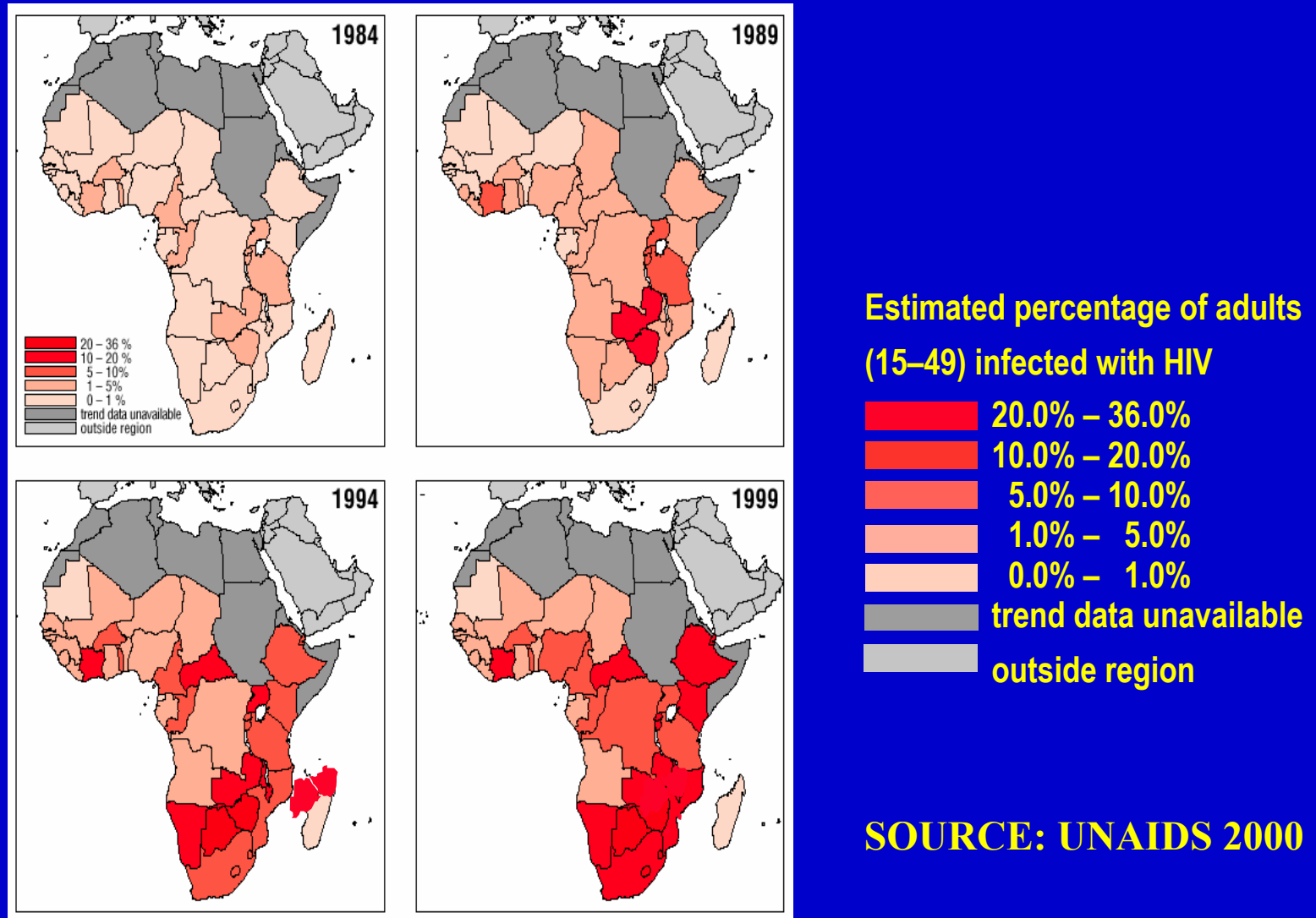
HIV persists wherever people live

1990 POPULATION DISTRIBUTION IN THE UNITED STATES



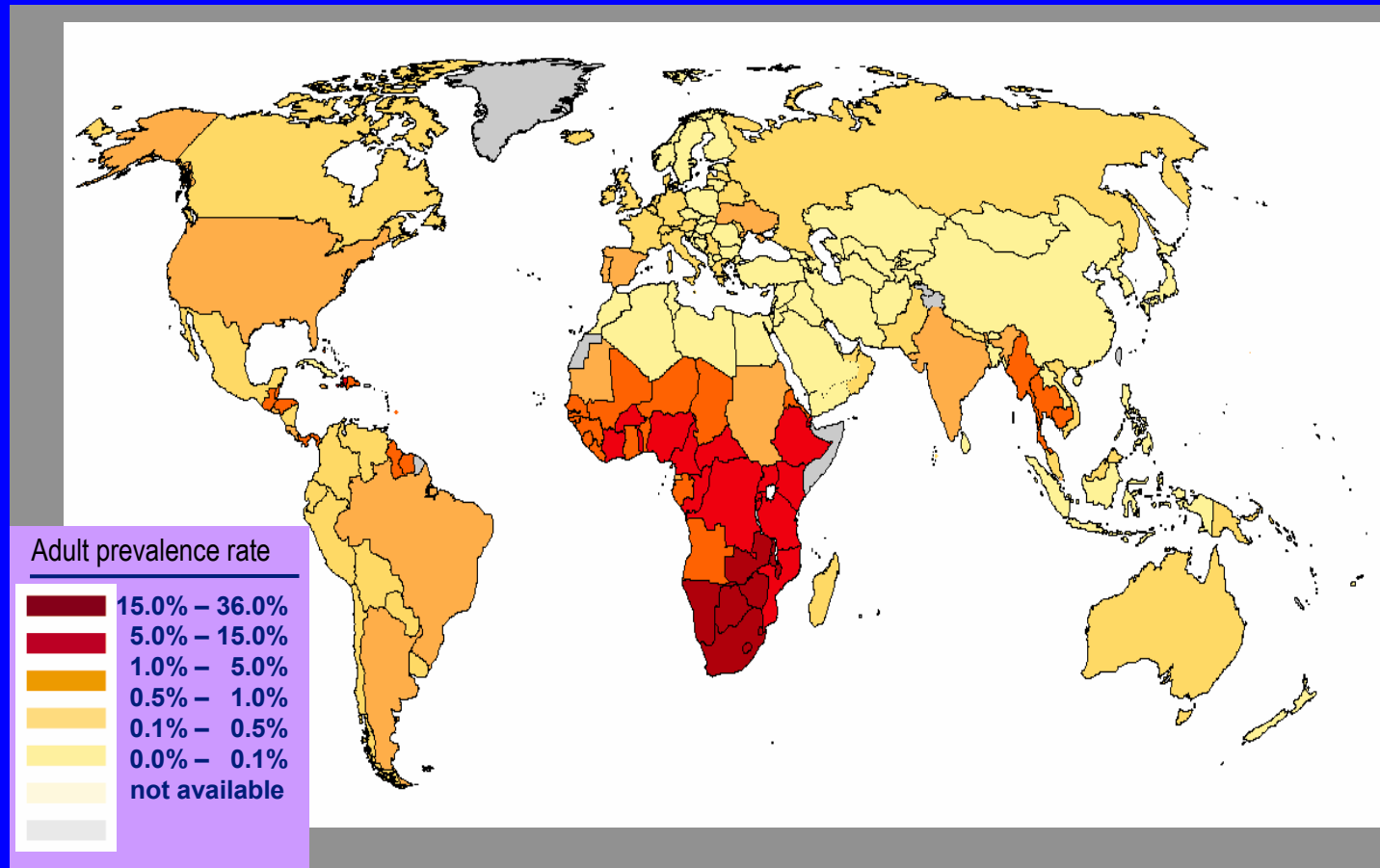
Prepared by Geography Division, U.S. Department of Commerce Economics and Statistics Administration Bureau of the Census

Fast Spread of HIV in Sub-Saharan Africa, 1984 to 1999



A global view of HIV infection

40 million people living with HIV/AIDS and about 30 million have died as of end 2004

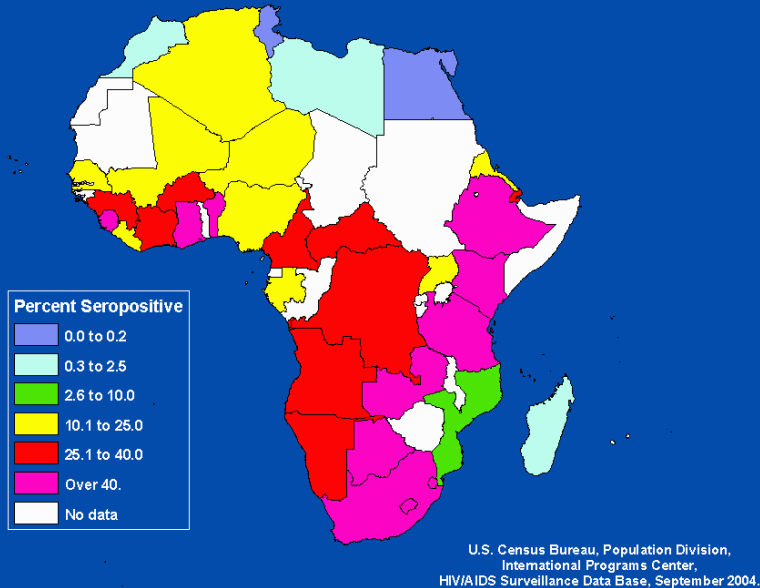


SOURCE:
UNAIDS
2000

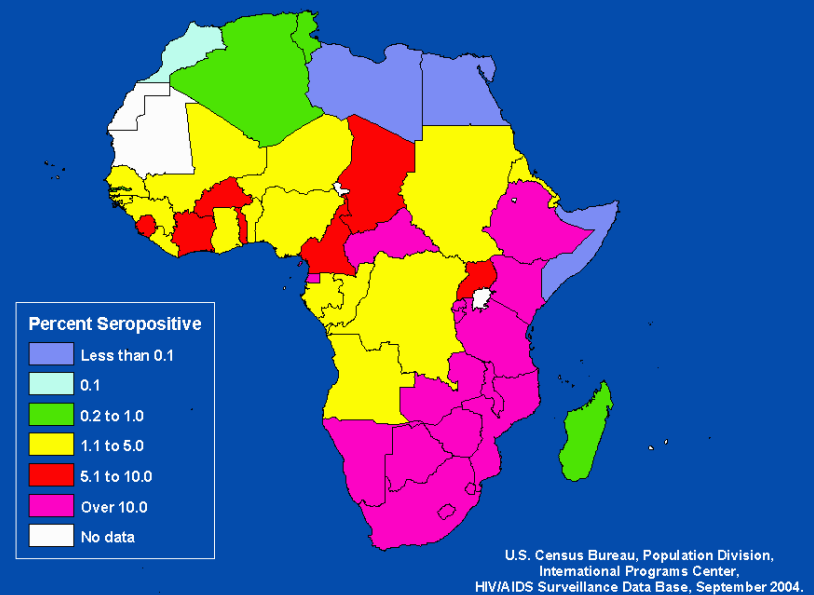
CONSEQUENCES

Africa: 1980-2004 a runaway pandemic

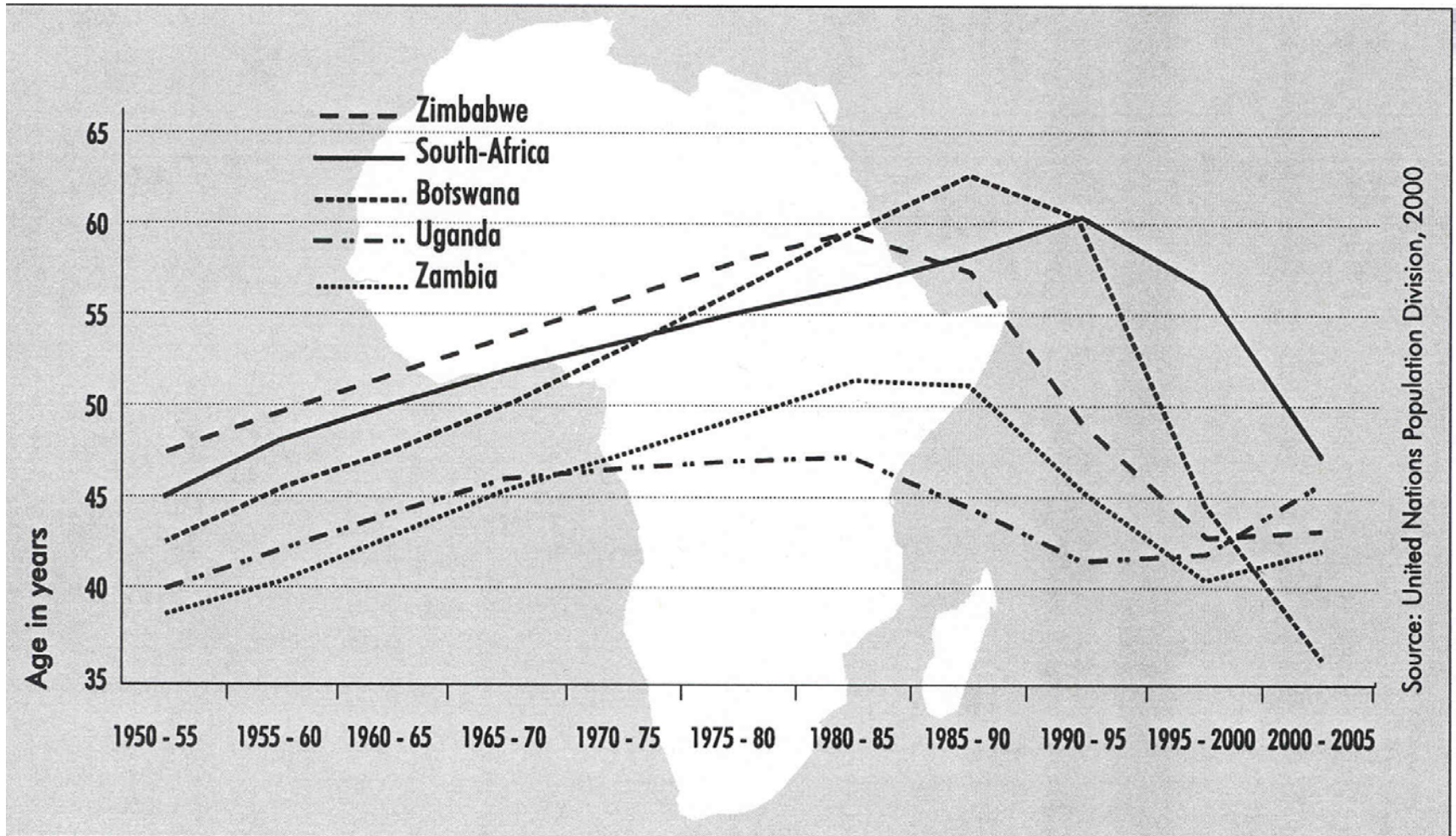
African HIV1 Seroprevalence for High-Risk Urban Populations



African HIV1 Seroprevalence for Low-Risk Urban Populations



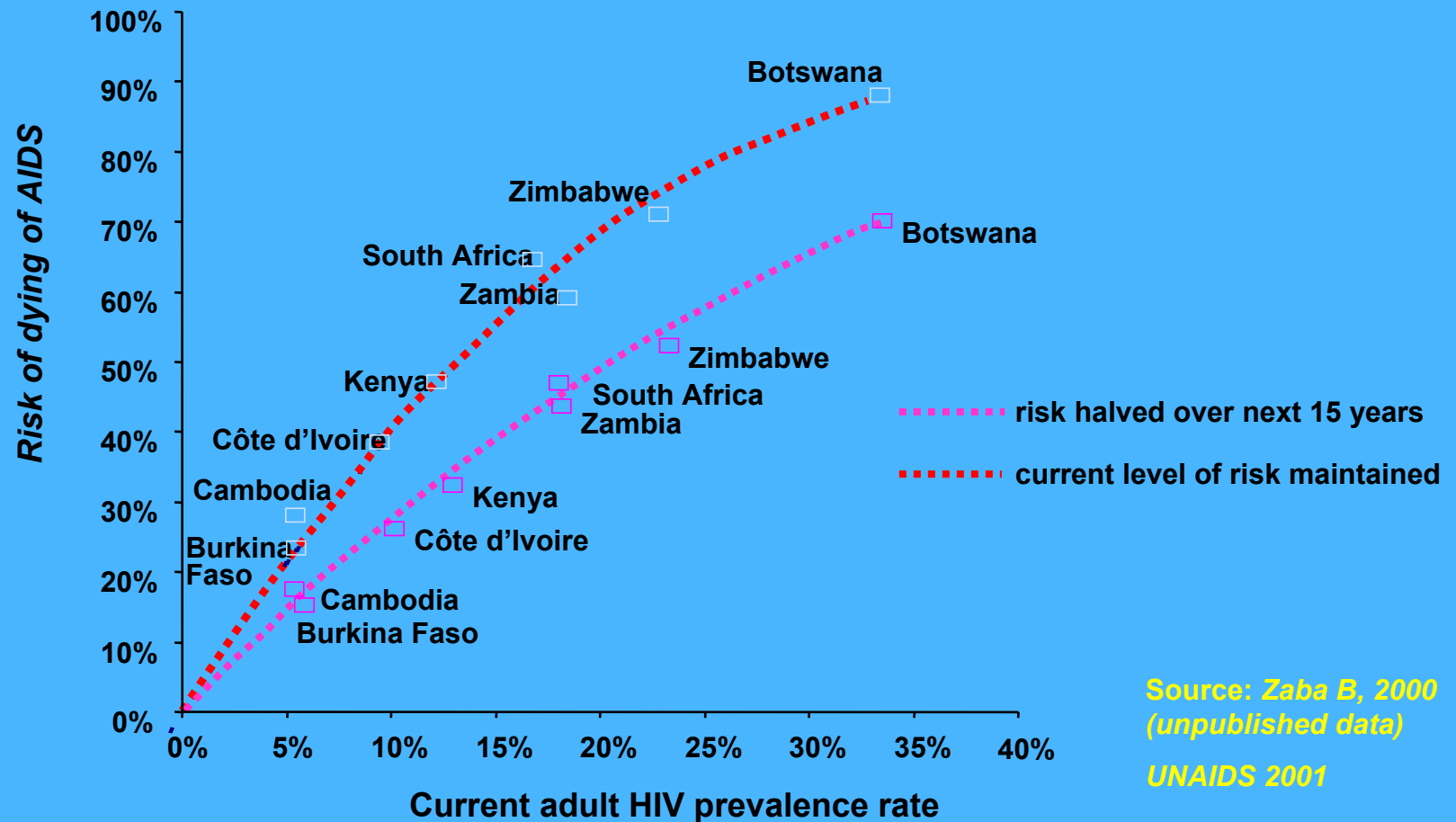
DECREASING LIFE EXPECTANCY; KILLING THE MOST PRODUCTIVE



MOST PRODUCTIVE SECTOR (YOUNG ADULTS) LOST



Lifetime risk of AIDS death for 15-year-old boys, assuming unchanged or halved risk of becoming infected with HIV, selected countries



Source: Zaba B, 2000
(unpublished data)
UNAIDS 2001

15 MILLION AIDS ORPHANS (2003)



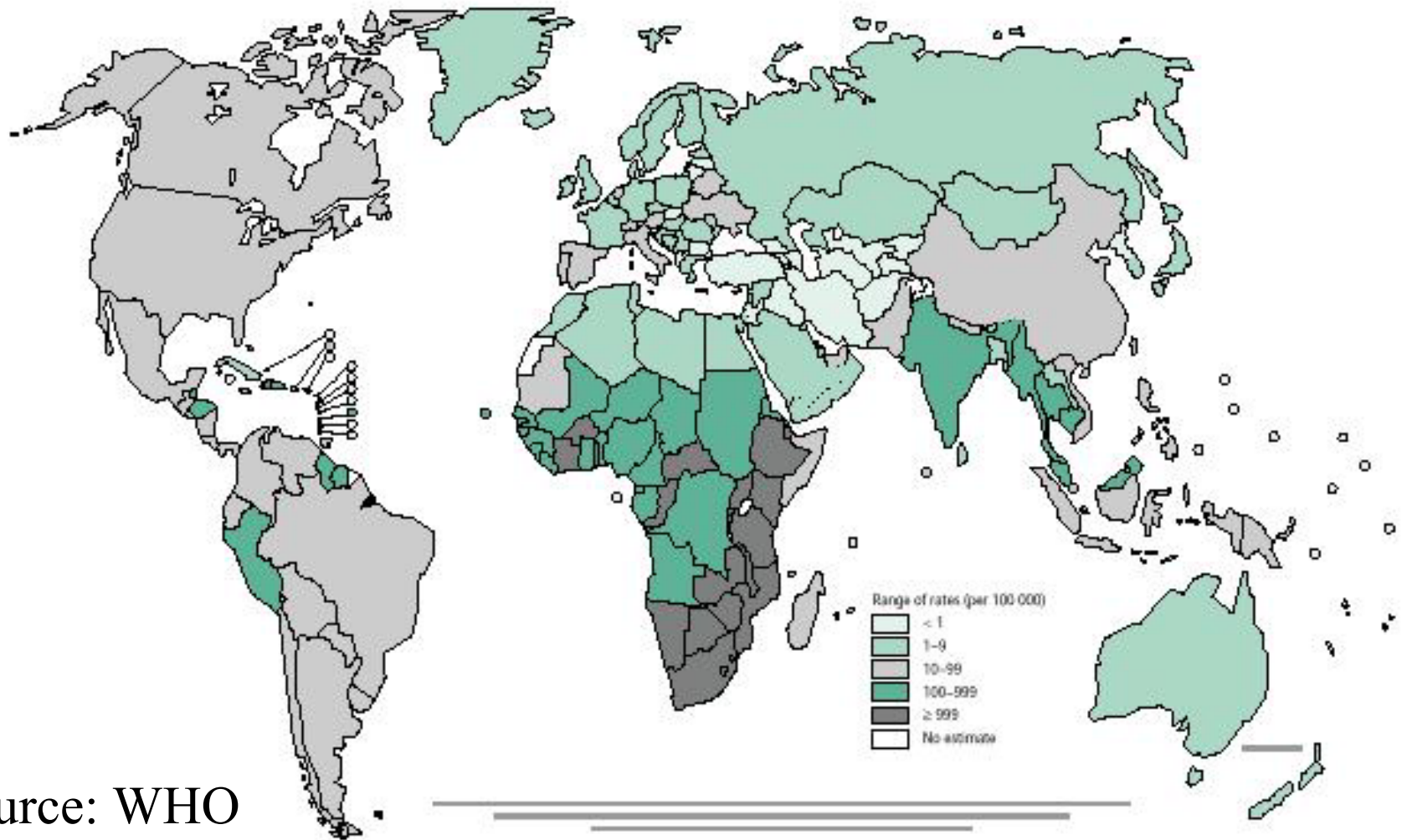
Source: James Nachtwey

What is their future?



TB and HIV Co-infection

2. Estimated TB/HIV co-infection rates, 1997



Source: WHO

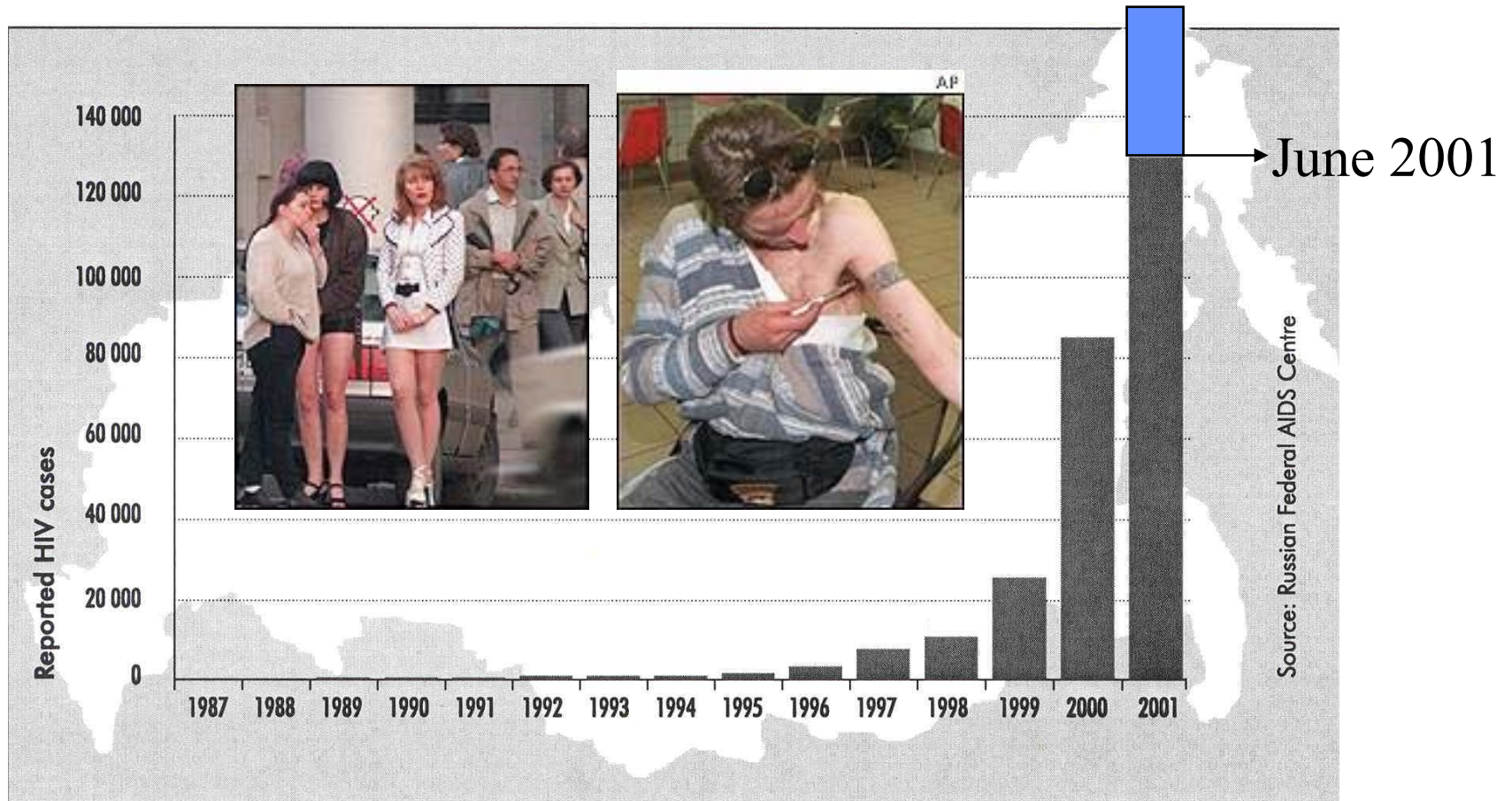
FUTURE

The 2002 NSC/CIA report lists 5 important countries in the next wave

- **Nigeria**
- **Ethiopia**
- **India**
- **China**
- **Russia**

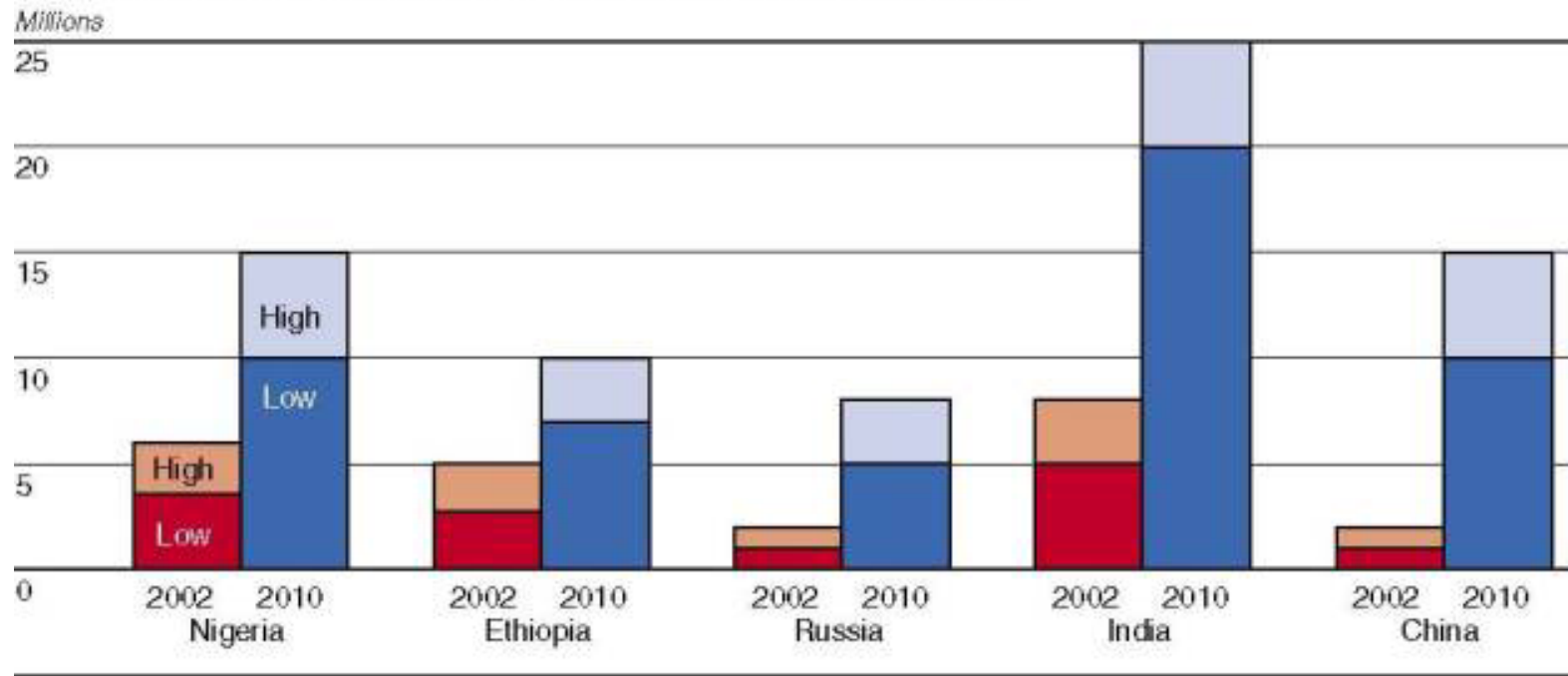
RUSSIA: at this rate of growth, 10% of
all Russians aged 15-49 will be HIV+ by 2010

NIC report



PROJECTIONS

Figure 1
High and Low Estimates of Current and Future
HIV/AIDS-Infected Adults in Next-Wave Countries, 2002 and 2010



Source: NSC/CIA report 2002

**If we know everything about
how HIV/AIDS spreads and
spread is preventable, then
why is HIV spreading?**

HIV/AIDS ↔ P, I, M?

- **Poor**
 - Survival dominates day to day existence
- **Illiterate**
 - Hard to teach and motivate behavior change
- **Marginalized**
 - Sex Workers
 - Men having sex with men
 - IV drug users

**Risky
behavior
stays
underground**

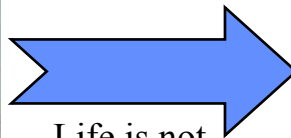
Rich versus Poor

- **Health care**
 - Testing and counseling
 - Treatment and care
 - Anti-retroviral therapy
- **Education**
 - Prevention:
 - ☹ behavior change
 - ☹ protection (condoms✓, vaccine✗)
- **Livelihood (freedom to make safe choices)**

Two extreme worlds

**With
ART**

1995



Life is not
the same
or perfect
with ART

1999



One has
access to
the best,
the other
has little

**No
ART**



Source: James Nachtwey

rajan@lanl.gov

<http://t8web.lanl.gov/people/rajan/AIDS-india/>

HIV and Poor

The continued spread of HIV/AIDS is an indicator of a much larger problem

THE VERY FUTURE OF THE POOR, THE ILLITERATE, AND THE MARGINALIZED

Challenge: people living under \$2/day

2 billion in 21st century

Resources
& Skills



1.5 B
people

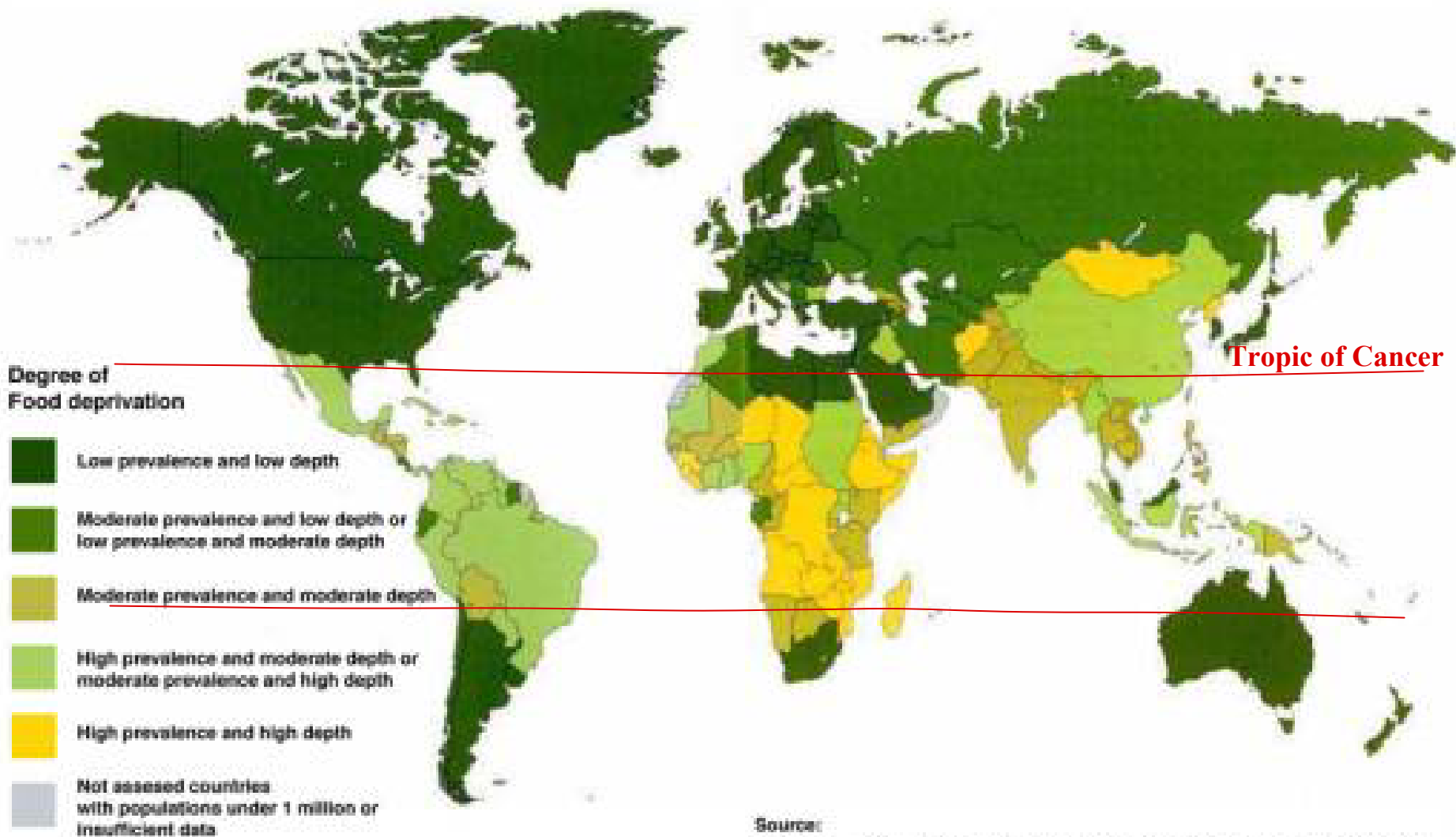
3 billion in 18th century
(population growth is happening here)

Sharks and Barracudas come in many guises

- **Despotic, corrupt governments**
- **National and transnational criminals**
- **Fanatics and terrorists**
- **Exploitative multinationals**

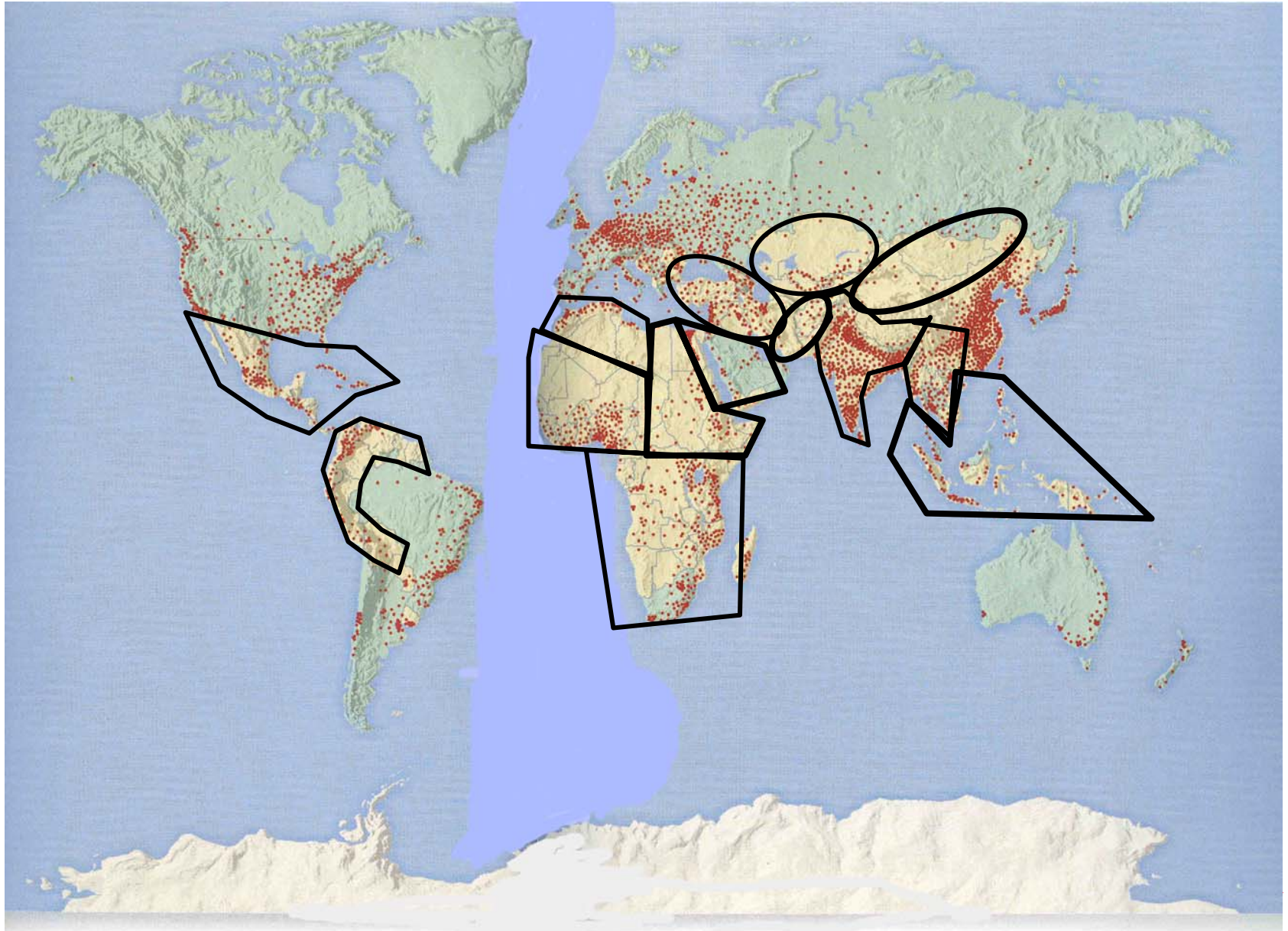
**Most nation states
lying within the
tropics are in
trouble**

World Hunger



Source:
FIVIMS (Food insecurity and vulnerability information and mapping systems)
SOFI 2000 (State of Food Insecurity in the World)
<http://www.fivims.net/>

Regions Of Concern



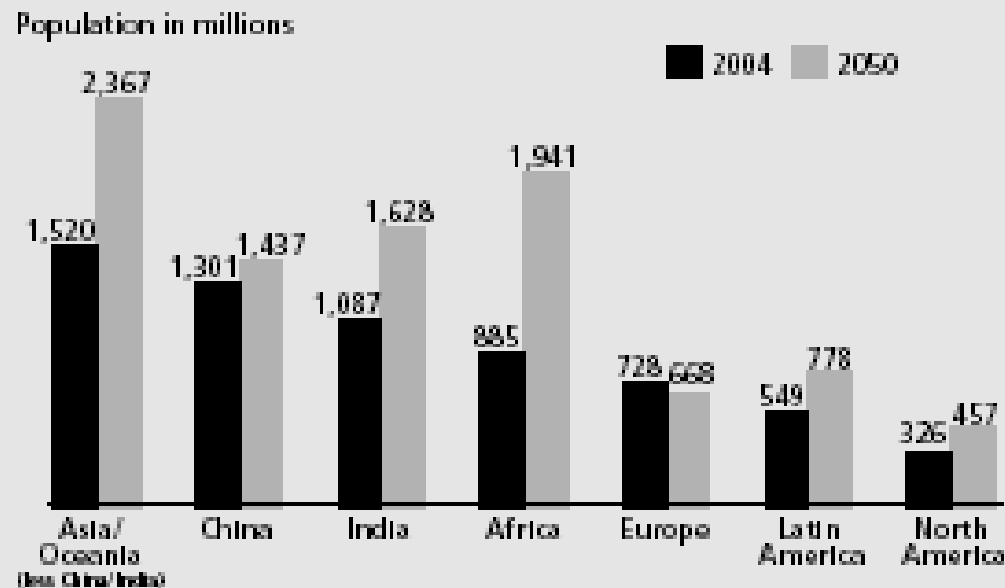
COMMON THREATS TO DEVELOPMENT

Six key enablers

- Population – growth mostly in poor populations
- Energy – will clean, cheap, copious supply of energy be available as conventional oil and gas production peaks? Global climate change?
- Water – without adequate water/food (and energy) will the poor get sufficient nourishment?
- Soil – With overuse, growing fertilizer/energy prices, less water, can the poor grow enough food?
- Health care – will the poor get even the basics?
- Education – will there be quality education for all?

All World Regions Except Europe Will Continue to Grow.

Developing countries in Africa and Asia will account for about 90 percent of the increase in world population projected by 2050, while the populations of most developed countries will decrease. Among the developed countries, only the United States is likely to see significant growth, a result of immigration and a birth rate higher than other developed nations.



PRB
2004

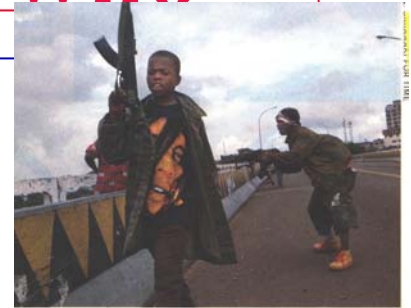
Population growth is in the poor and low education sectors

2004			2050		
Rank	Country	Population (millions)	Rank	Country	Population (millions)
1	China	1,300	1	India	1,628
2	India	1,087	2	China	1,437
3	United States	294	3	United States	420
4	Indonesia	219	4	Indonesia	308
5	Brazil	179	5	Nigeria	307
6	Pakistan	159	6	Pakistan	295
7	Russia	144	7	Bangladesh	280
8	Bangladesh	141	8	Brazil	221
9	Nigeria	137	9	Congo, Dem. Rep. of	181
10	Japan	128	10	Ethiopia	173

World Population 2050: 9.3 billion (Population Reference Bureau)

Of the 3 billion living on less than \$2 (PPP) per day, about a billion are children below age 15 who

- live amidst violence and poverty
- have little or no family supervision
- are not part of the knowledge society
- will not have access to higher education
- lack distinction between right and wrong
- are vulnerable to diseases and poor health



Who will provide them hope and what will keep them from becoming destructive?

Vulnerable population under 15

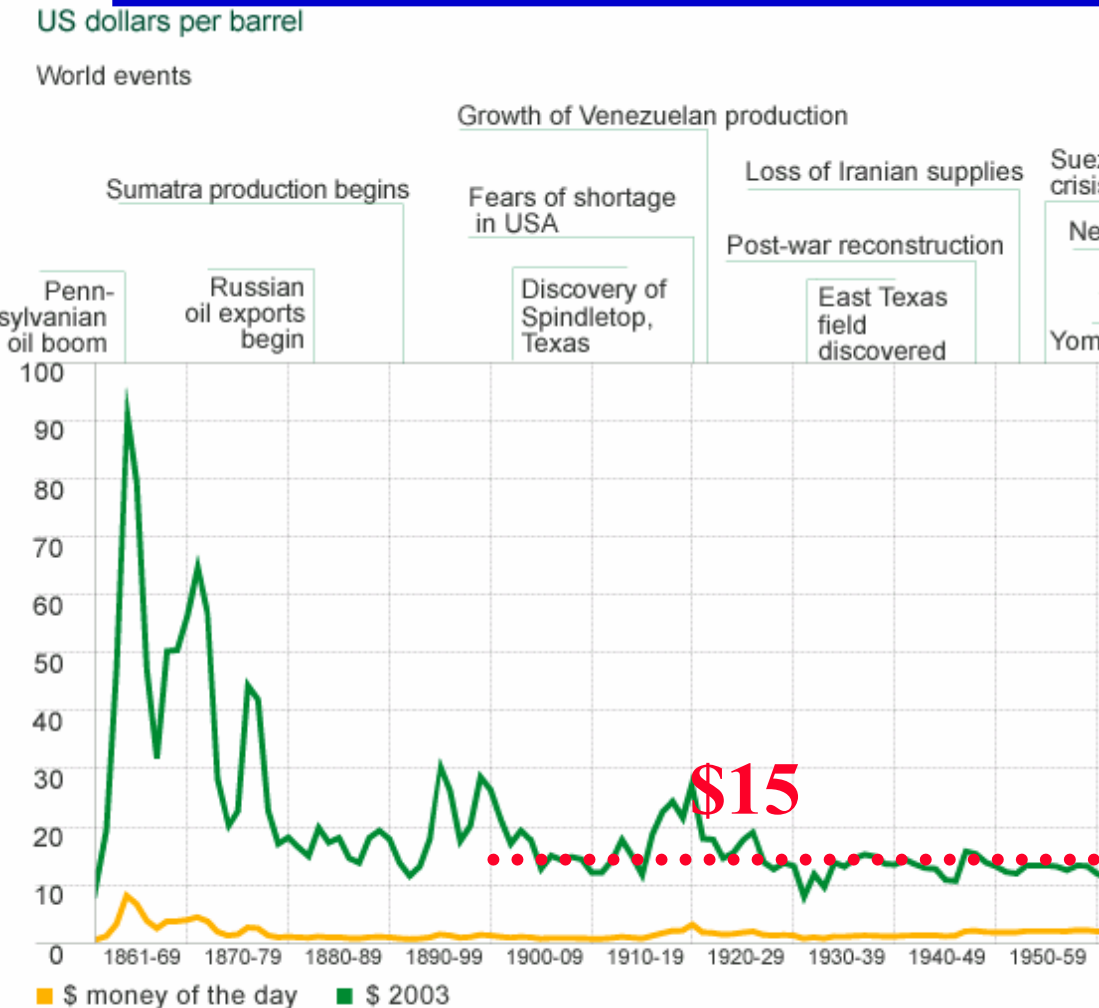
Region	Population (Millions)	Population under 15 (million)	Vulnerable Pop. under 15 (million)
Africa	861	362 (42%)	~290 (80%)
Cent. America	144	50 (35%)	~25 (50%)
South America	358	111 (31%)	~50 (45%)
West Asia	204	73 (36%)	~40 (55%)
S&C Asia	1563	580 (37%)	~350 (60%)
South East Asia	544	180 (31%)	~90 (50%)
East Asia	1519	334 (22%)	~110 (33%)
East Europe	301	54 (18%)	~11 (20%)

Source: Population data are from Population Reference Bureau 2003
rajan@lanl.gov <http://t8web.lanl.gov/people/rajan/AIDS-india/>

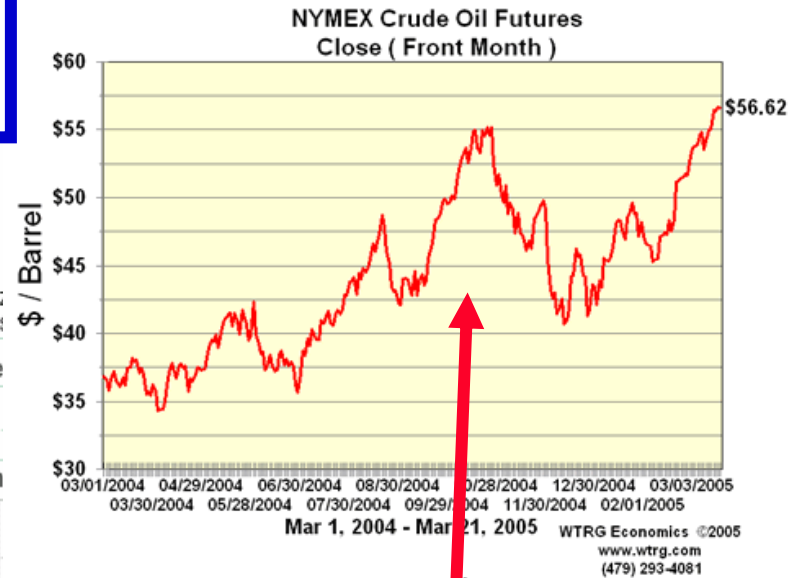
HIV and Poor

ENERGY: Need cheap, clean, copious supply!

Peak oil → decline in supply
?? are alternatives in place??



BP 2004



\$60?

\$30

1861-1944 US average.
1945-1983 Arabian Light posted at Ras Tanura. *Poor*
1984-2003 Brent dated.



USA -, -, 1

China -, -, 3

EU -, -, 6

Russia -, 1, 2

India -, -, 4

Persian Gulf

OIL

1,2,3
4,5

GAS

2,3,4,
5,10

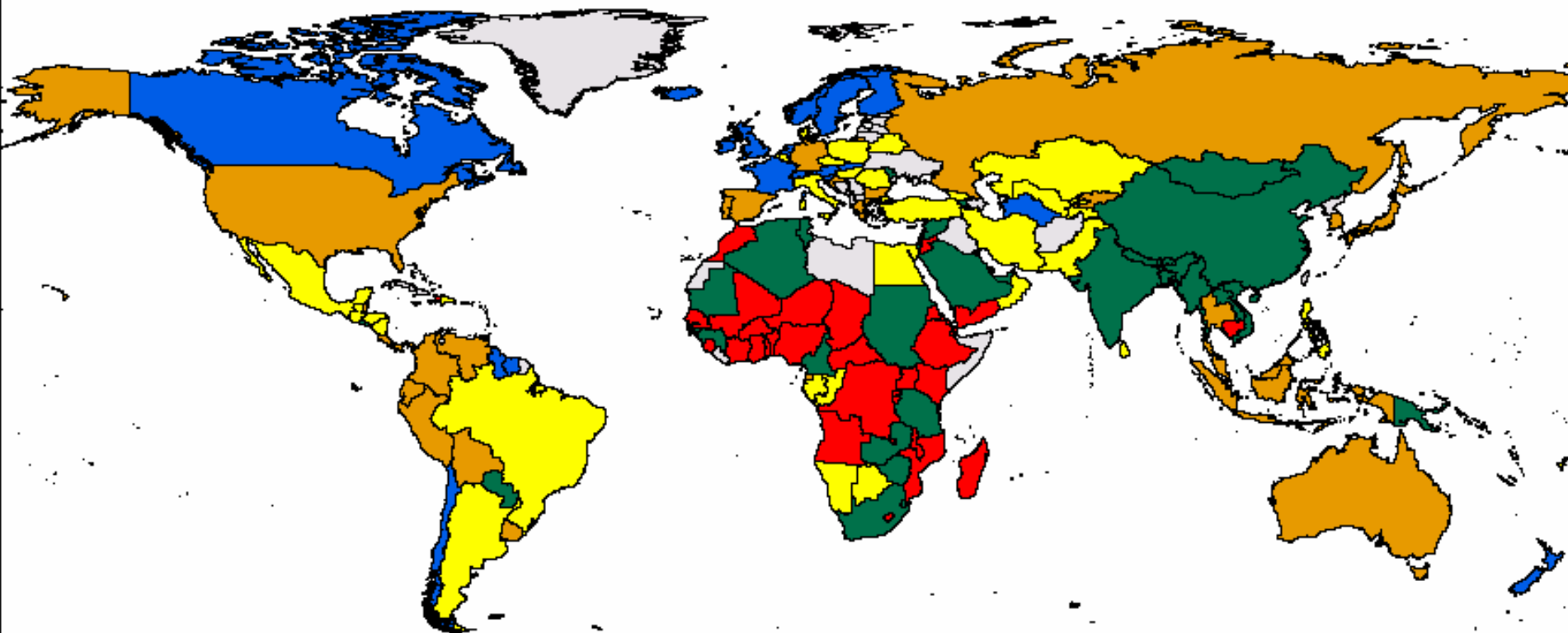
No Coal

Water Poverty Index (WPI)

The information illustrated here represents results of work in progress and must not be taken as definitive



Centre for
Ecology & Hydrology
NATURAL ENVIRONMENT RESEARCH COUNCIL



Water Poverty

(The lower the score the bigger the problem)



No Data



Severe (WPI 35-47.9)



High (WPI 48-55.9)



Medium (WPI 56-61.9)



Medium Low (WPI 62-67.9)

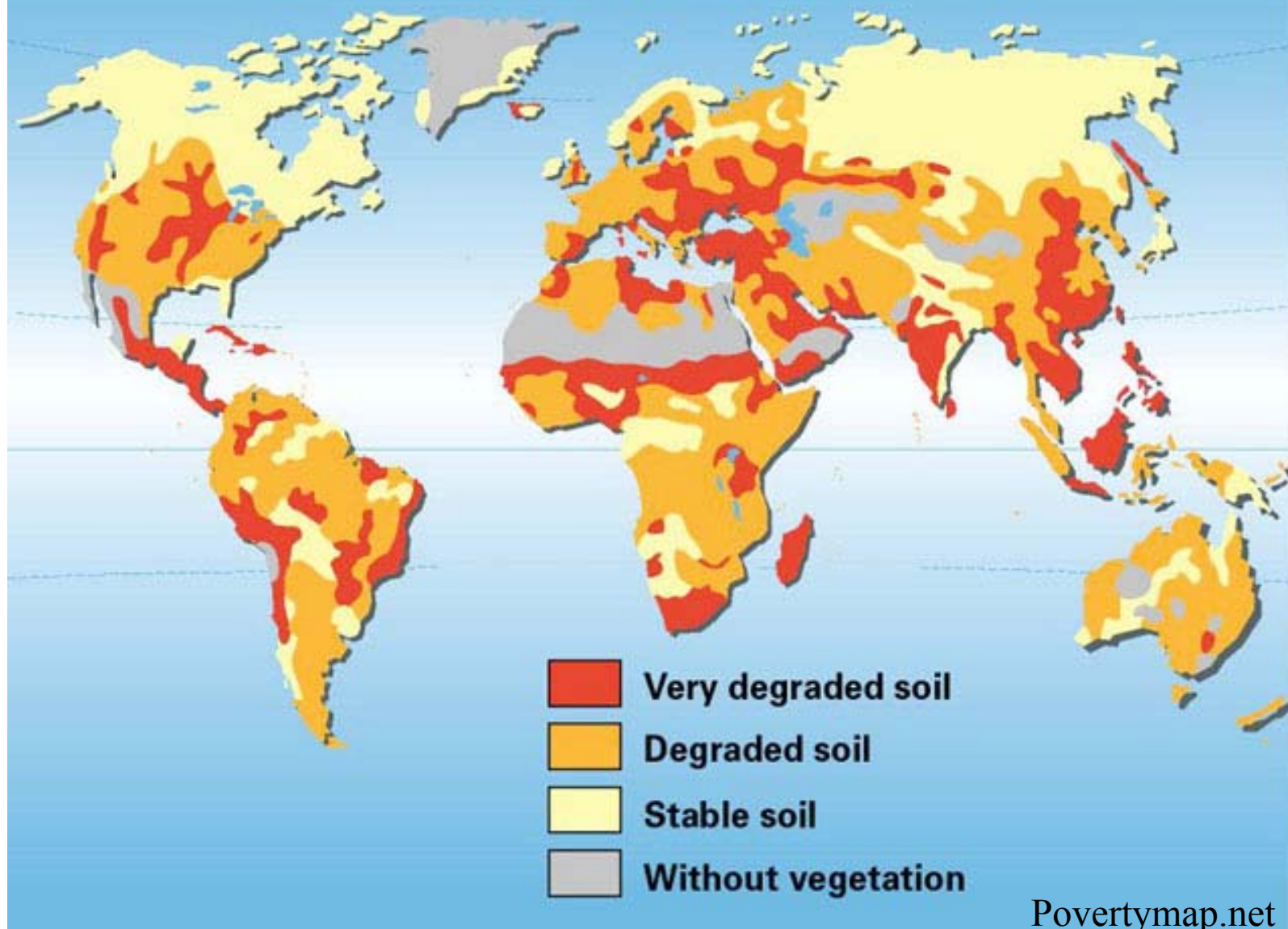


Low (WPI 68-78)

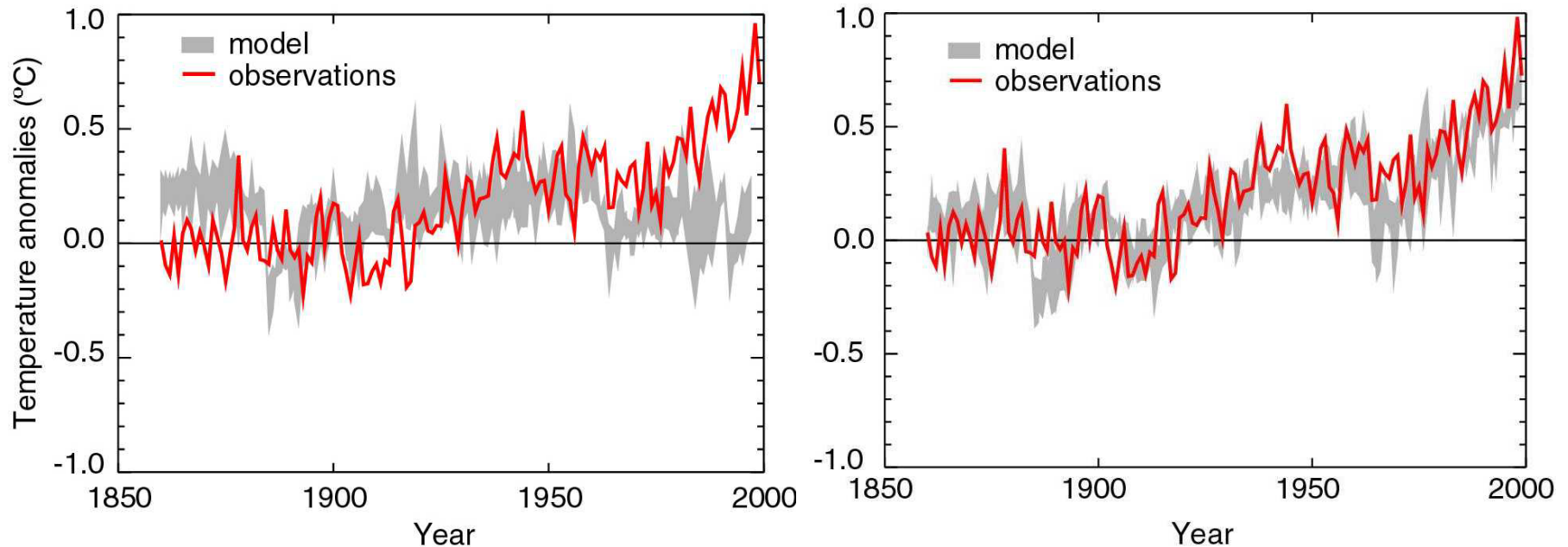
Key to WPI components: R - Resources, A - Access, C - Capacity, U - Use, E - Environment

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Soil degradation



Climate change will impact the poor the most



“Simulations of the response to natural forcings alone ... do not explain the warming in the second half of the century”

Stott et al, Science 2000

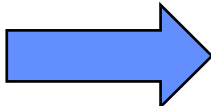
“..model estimates that take into account both greenhouse gases and sulphate aerosols are consistent with observations over this*period” - IPCC 2001

Health and Education

- **Don't have enough doctors, nurses, or trained paramedics**
- **Don't have enough good teachers. Teaching is becoming less and less rewarding**
- **Good teachers and doctors can migrate wherever they want. Who will serve rural communities?**
- **Good health care and schools are fast reaching international costs**

Poor remain vulnerable to HIV/AIDS, TB, Malaria, Hepatitis, ...

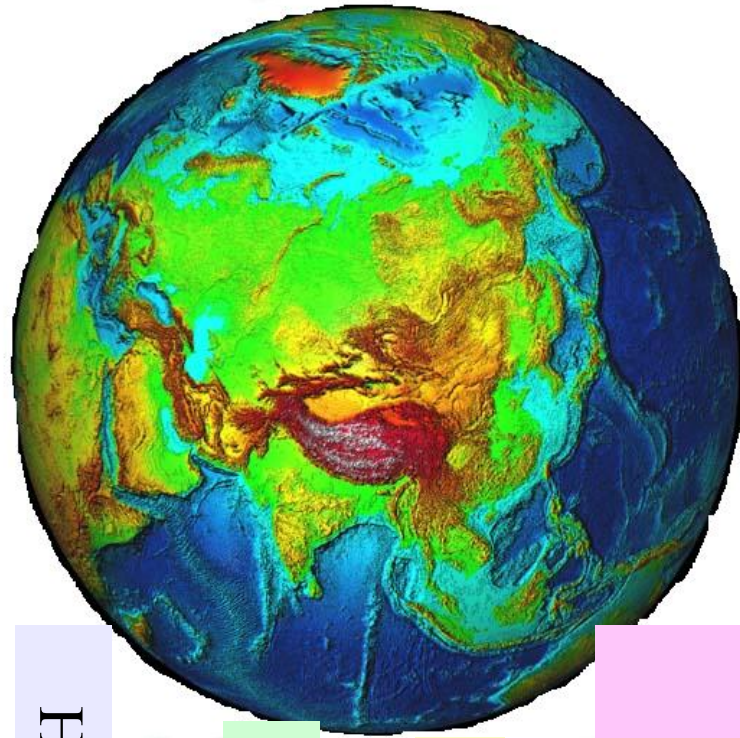
In the absence of healthy leisure time activities people gravitate towards

- **Shallow television**
- **Alcohol and drugs**
- **Gambling**
- **Risky sex**  **HIV/AIDS**

Need education and meaningful jobs

THE GLOBAL CHALLENGE

**Help erect
the four
pillars of
society**



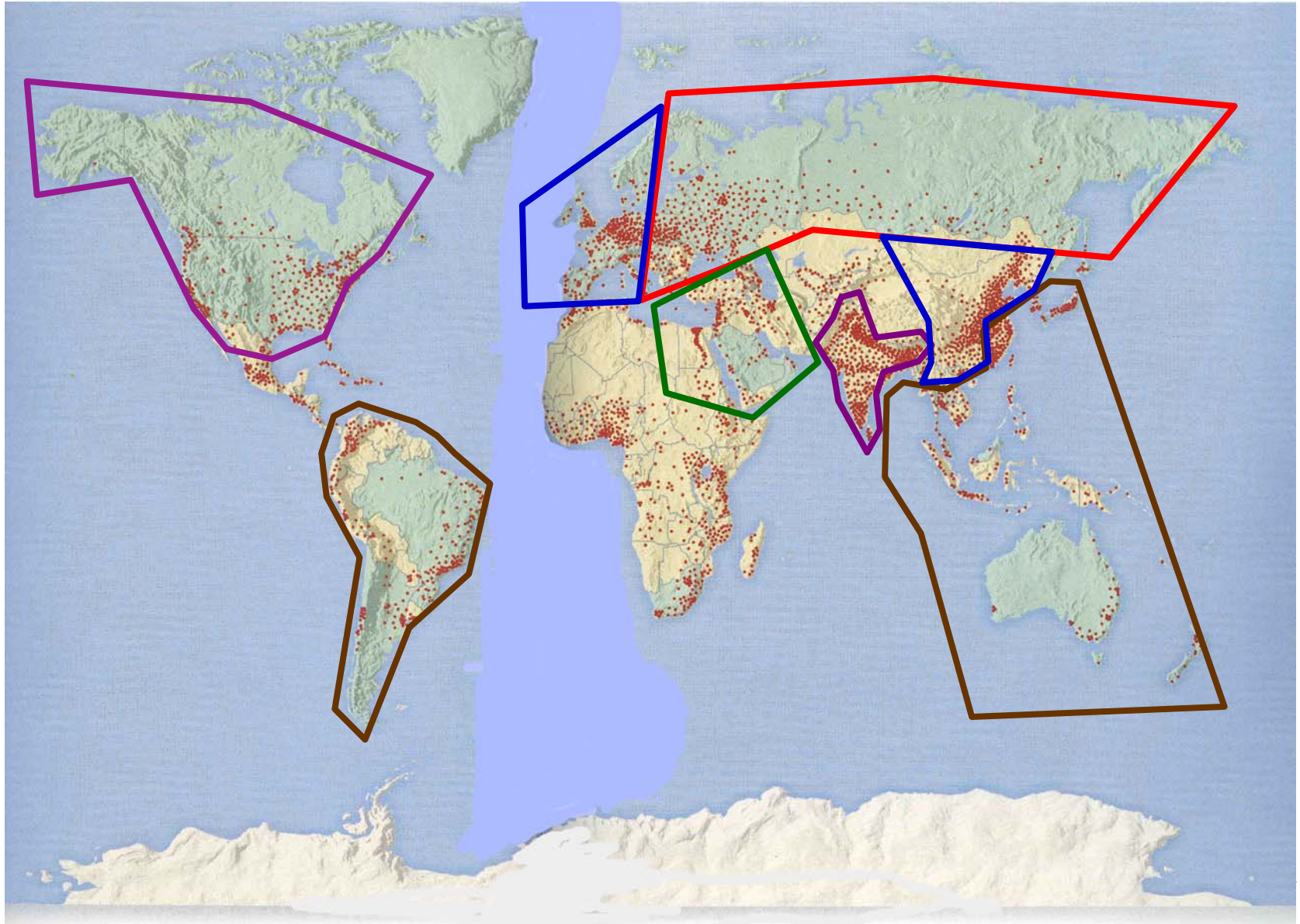
Health/Education

Energy/Water

Jobs/Economy

Security /
Governance

(BAU) Economic Zones of 300-400M “global” people



The more we ignore the
needs of the poor and
marginalized, the more
we empower the
despots, the sharks
and the barracudas!

SUGGESTIONS

Reproductive Health

Every man and women should have easy and free access to modern family planning and disease prevention methods (pill, condom, vaccines, ...)

Empowerment begins with the right and freedom to choose

Confront criminal organization and rogue economies

- **Alcohol**
- **Tobacco**
- **Drugs**
- **Weapons**
- **Money laundering**
- **Corporate/government corruption**
- **Illegal trade in resources**

Deploy enabling Technologies

- **Medicines and vaccines**
- **Cheap, clean, copious sources of globally deployable energy.
(Conserve fossil fuels)**
- **Enhancing potable water resources and quality of water**

**Provide each person with a
full complement of childhood
immunizations, health care,
adequate daily food, and
good education**

What will it take?

- \$100-200 per year for poor-extremely poor person ($< \$2$ -1/day) for 20 years(1 generation)
- Caring and intelligent development specialists working on the ground to provide skills, health care and education
- Investment in basic infrastructure – transportation and communication (roads, ...) energy, water, sanitation, law and order

**Collective action, Cooperation, trust,
and belief in shared fate**

We can afford \$200Billion/year = 0.7% of GDP of rich countries!

- I. Reproductive health (15B)
 - A. Birth control pills for women – at \$5 per year for 1B women (remaining 0.5 billion fertile women can afford to buy them)
 - B. Condoms for all risky sex $((1B*0.5)*10c*(365*0.5) = 10B)$
- II. Infrastructure for 2 Billion (\$134B)
 - A. Energy: 5c per day per person (\$40B)
 - B. Water and Sanitation: 3c per day per person (\$24B)
 - C. Medicines and basic health care: \$10/person/year (\$20B)
 - D. Roads, transport, communications, (\$50B)
- III. Education, nutrition, vaccinations (50/100M children born/year) (\$52B)
 - A. Education: 20c per day per child for 12 years (\$40B)
 - B. Nutrition: 5c per day per child for 12 years (\$10B)
 - C. Immunizations: \$30 per child (\$1.5B)
- IV. Confronting rogue economies
 - A. Social activism

GOOD NEWS: Individuals can change the world

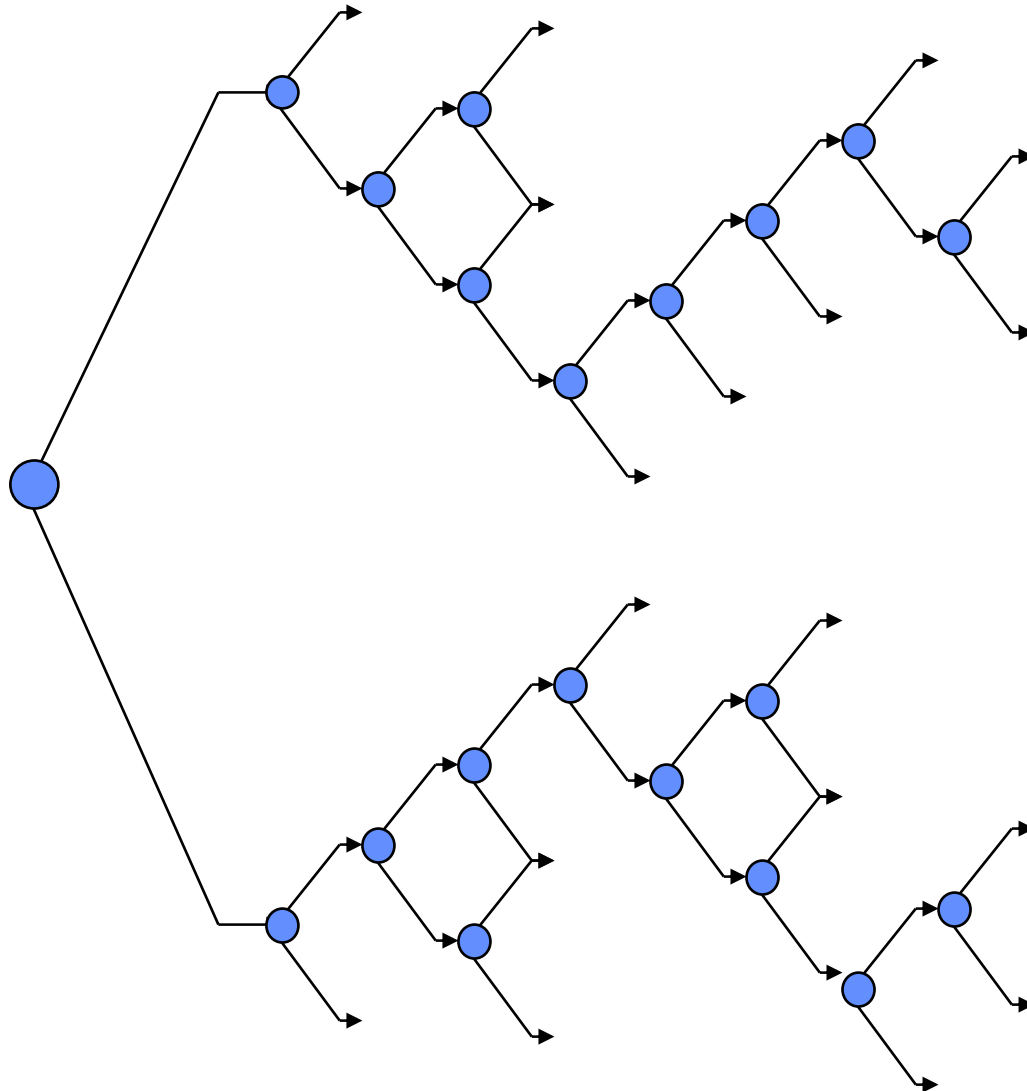
Jody Williams helped create a coalition, starting in 1992, of individuals, community organizations, non-government organizations, international agencies, governments to eliminate landmines.

In 1997 the Mine Ban Treaty was adopted.

In 1997 the International Campaign to ban Landmines (ICBL) and Jody Williams won the Nobel Peace prize

Jody started the movement using FAX and e-mail!!!

WE CAN PERVADE & PREVAIL



Create a
movement

IF EVERYONE
WHO GETS
THE MESSAGE
SPREADS IT TO
TWO NEW
PEOPLE, WE
CAN REACH
ALL PEOPLE
IN **33** STEPS